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L2: Entry 1 of 1

File: USPT

May 7, 2002

US-PAT-NO: 6383622

DOCUMENT-IDENTIFIER: US 6383622 B1

TITLE: Slider formed of fiber-reinforced thermoplastic resin

DATE-ISSUED: May 7, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ishibashi; Akira	Toyama			JP
Tanaka; Mamoru	Toyama-ken			JP
Hirota; Mutsuo	Toyama-ken			JP
Miyajima; Yoshifumi	Kurobe			JP

US-CL-CURRENT: 428/299.1; 24/381, 24/415, 428/299.4

CLAIMS:

What is claimed is:

1. A slide fastener, said slide fastener having a slider, said slider comprising a fiber-reinforced resin material of polyamide containing reinforcing fibers and incorporating therein additionally as a sliding property-imparting agent-a material having a storage elastic modulus in the range of 3.5.times.10.⁸ Pa to 5.0.times.10.⁸ Pa in a service temperature range of 30.degree. C. to 70.degree. C. at a ratio of at least 4% by weight and less than 10% by weight, based on the total weight of said polyamide and said reinforcing fibers.
2. The slide fastener according to claim 1, wherein said sliding property-imparting agent is selected from the group consisting of fluoropolymers and polyethylene.
3. The slide fastener according to claim 1, wherein said sliding property-imparting agent is polytetrafluoroethylene.
4. The slide fastener according to claim 1, wherein said reinforcing fiber is present in an amount of 20 to 60% by weight, based on the weight of said polyamide.
5. The slide fastener according to claim 1, wherein said reinforcing fiber is at least one member selected from the group consisting of glass fibers, carbon fibers, and metal fibers.
6. The slide fastener according to claim 1, wherein said fiber-reinforced resin material contains said sliding property-imparting agent in an amount of 4 to 7% by weight, based on the total weight of said polyamide and said reinforcing fibers.
7. The slide fastener according to claim 1, wherein said sliding property-imparting agent is polyethylene.

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L1: Entry 2 of 2

File: DWPI

Jun 12, 1986

DERWENT-ACC-NO: 1986-156560

DERWENT-WEEK: 198625

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TITLE: One piece slide fasteners for bed linen - injection moulded from long glass fibre reinforced polyamide

INVENTOR: ANDREJEWSK, W; HONKE, M ; MASCH, K

PATENT-ASSIGNEE:

ASSIGNEE	CODE
OPTI PATENT FORSCHUNGS & FAB	OPTP
OPTIPATENT AG	OPTP

PRIORITY-DATA: 1984DE-3444813 (December 8, 1984)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE <u>3444813</u> A	June 12, 1986		011	
DE <u>3444813</u> C	October 16, 1986		000	

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
DE 3444813A	December 8, 1984	1984DE-3444813	

INT-CL (IPC): A44B 19/42

ABSTRACTED-PUB-NO: DE 3444813A

BASIC-ABSTRACT:

One-piece slides for bed linen slide fasteners are produced from recrystallisable polyamide contg. at least 25, pref. 30 wt.% of 4.8mm glass fibre reinforcement by (i) injection moulding the molten polymer into a slide mould forming the core of the slide-fastener (ii) removing the slide-fastener from the mould when sufficiently cool (iii) re-crystallise the moulding. The long axis of the slide is approx. 10mm and the glass fibre length is pref. about 6mm. The polyamide may contain 10-25 wt.% of a molybdenum sulphide and/or PTFE lubricant, or in a pref. compsn. a lubricant-free polyamide may be used contg. approx. 40 wt.% glass fibre. The polyamide used is pref. nylon-66, and the moulded slide fastener is recrystallised by heat treatment for 8 hours at 160 deg.C.

USE/ADVANTAGE - Use of long glass fibre reinforced injection moulded, recrystallised polyamide slide fasteners produced by the above process is claimed. The rapid action fastener is resistant to laundering and mangling conditions. Recrystallisation by e.g. IR or diathermal heating reduces internal stresses, uncontrolled creep and other deformation.

ABSTRACTED-PUB-NO:

DE 3444813C

EQUIVALENT-ABSTRACTS:

One-piece slides for bed linen slide fasteners are produced from recrystallisable

polyamide contg. at least 25, pref. 30 wt.% of 4.8mm glass fibre reinforcement by (i) injection moulding the molten polymer into a slide mould forming the core of the slide-fastener (ii) removing the slide-fastener from the mould when sufficiently cool (iii) re-crystallising the moulding. The long axis of the slide is approx. 10mm and the glass fibre length is pref. about 6mm. The polyamide may contain 10-25 wt.% of a molybdenum sulphide and/or PTFE lubricant, or in a pref. compsn. a lubricant-free polyamide may be used contg. approx. 40 wt.% glass fibre. The polyamide used is pref. nylon-66, and the moulded slide fastener is recrystallised by heat treatment for 8 hours at 160 deg.C.

USE/ADVANTAGE - Use of long glass fibre reinforced injection moulded, recrystallised polyamide slide fasteners produced by the above process is claimed. The rapid action fastener is resistant to laundering and mangling conditions. Recrystallisation by e.g. IR or diathermal heating reduces internal stresses, uncontrolled creep and other deformation.

CHOSEN-DRAWING: Dwg. 0/4

TITLE-TERMS: ONE PIECE SLIDE FASTEN BED LINEN INJECTION MOULD LONG GLASS FIBRE REINFORCED POLYAMIDE

DERWENT-CLASS: A23 A84 F07 P23

CPI-CODES: A05-F01E; A11-B02; A11-B12A; A12-D01; F04-D01; F04-F03;

UNLINKED-DERWENT-REGISTRY-NUMBERS: 1952U; 1952U ; 5214U

POLYMER-MULTIPUNCH-CODES-AND-KEY-SERIALS:

Key Serials: 0011 0037 0206 0210 0211 0222 0224 0093 0231 0947 1283 3174 1450 1723 2214
2315 2372 2413 2465 2545 2607 2608 2763 2838

Multipunch Codes: 014 04- 062 064 07& 075 087 141 15- 155 157 160 18- 206 207 308 309
311 314 388 42- 428 44& 441 456 461 476 541 545 546 548 61& 641 688 720 723

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1986-066904

Non-CPI Secondary Accession Numbers: N1986-116431

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L4: Entry 1 of 1

File: DWPI

Nov 8, 1994

DERWENT-ACC-NO: 1995-027714

DERWENT-WEEK: 199504

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TITLE: Moulding material esp. for sliding resin mouldings e.g. lever or roller - has aramid long fibre (sic), thermoplastic resin and friction-regulating agent

PATENT-ASSIGNEE:

ASSIGNEE	CODE
AISHIN KAKO KK	AISI

PRIORITY-DATA: 1993JP-0125221 (April 28, 1993)**PATENT-FAMILY:**

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP <u>06313050</u> A	November 8, 1994		003	C08J005/04

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP 06313050A	April 28, 1993	1993JP-0125221	

INT-CL (IPC): C08J 5/04; C08K 7/02; C08L 101/00; C08L 27/12; C08L 101/00**ABSTRACTED-PUB-NO:** JP 06313050A**BASIC-ABSTRACT:**

In a moulding material consisting aramid long fibre (sic), thermoplastic resin and friction-regulating agent, the thermoplastic resin and the friction-regulating agent are impregnated among the aramid long fibres opened into monofilament state.

Friction-regulating agent is uniformly impregnated and dispersed in aramid long fibre-reinforced thermoplastic resin moulding. Thermoplastic resin is pref. e.g. 66 nylon, 6 nylon or PBT.

Friction-regulating agent is e.g. fluorine resin, molybdenum disulphide or graphite.

USE/ADVANTAGE - For mfg. mouldings of resin, esp. sliding resin mouldings e.g. as lever or roller. The fluctuation of the friction coefft. and the mechanical strength of the resin mouldings obtained is min. and mouldings of good quality can be obt'd.

In an example, moulding material consisting of aramid long fibre (20 wt.%), 66 nylon (70 wt.%) and fluorine resin powder (PTFE) (10 wt.%)), in which the fluorine resin powder was uniformly dispersed among the opened aramid long fibre filaments, was prepared.

CHOSEN-DRAWING: Dwg. 0/0**TITLE-TERMS:** MOULD MATERIAL SLIDE RESIN MOULD LEVER ROLL ARAMID LONG FIBRE THERMOPLASTIC RESIN FRICTION REGULATE AGENT**DERWENT-CLASS:** A14 A23**CPI-CODES:** A05-F05; A08-R08A; A12-H10; A12-S08C; A12-S08D1; A12-S08E;

ENHANCED-POLYMER-INDEXING:

Polymer Index [1.1] 017 ; H0317 ; P0646 P0635 F70 D01 D11 D10 D50 D86 ; P0691 P0635 F70 D01 D11 D10 D50 D92 E13 E00 ; P0895 P0839 H0293 F41 D01 D11 D10 D19 D18 D31 D50 D63 D92 E21 E00 ; S9999 S1434 Polymer Index [1.2] 017 ; ND04 ; K9892 ; Q9999 Q7896 Q7885 ; Q9999 Q8991 ; B9999 B5367 B5276 ; N9999 N5856 ; N9999 N6440*R ; B9999 B4091*R B3838 B3747 Polymer Index [1.3] 017 ; A999 A419 ; S9999 S1070*R Polymer Index [1.4] 017 ; R01778 D00 D09 C* 4A ; R07035 D00 F00 Mo 6B Tr S* 6A ; A999 A340*R Polymer Index [2.1] 017 ; P0737*R P0635 H0293 F70 D01 D18 ; S9999 S1218 S1070 ; A999 A782 ; A999 A419 Polymer Index [3.1] 017 ; R00975 G0022 D01 D12 D10 D51 D53 D59 D69 D82 F* 7A ; A999 A782 ; A999 A340*R ; H0000 ; P0500 F* 7A ; S9999 S1514 S1456 ; P0511 Polymer Index [3.2] 017 ; Q9999 Q7841

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1995-012634